

Resolving Localised Pressure Along the Liver Channel via Acupuncture: Clinical Observations on Gas-like Pathological Qi

Meaghan Mari Kleovoulos & Wei Wendy Zhang

Abstract

This case series explores the use of acupuncture and adjunctive therapies to relieve localised pressure due to Liver qi stagnation. Drawing from six clinical cases, this paper examines how emotional stressors can precipitate stagnation along the Liver channel, resulting in subjective and objective symptoms such as abdominal distension, chest oppression and neurological changes. Acupuncture, supported by adjunctive therapies such as herbal medicine and therapeutic massage, was employed to promote the smooth flow of qi, restore physiological function and resolve pathological states. The outcomes suggest that the therapeutic restoration of qi circulation plays a key role in dissipating stagnation-induced pressure. The paper further proposes integrating biophysical methodologies to measure localised pressure changes and examine the emission of gasotransmitters in such cases to better understand qi as a dynamic physiological entity.

Keywords

Acupuncture, Chinese medicine, connective tissue signalling, emotional stress, gas-like qi, interoception, Liver qi stagnation, localised pressure, nitric oxide, somatoform disorders, vagus nerve

Introduction

 Qi (气) is foundational to the theoretical and clinical framework of traditional Chinese medicine (TCM). Described as the vital energy of life and a basic element of the universe, qi moves dynamically through channels in the human body, sustaining health and physiological balance (Unschuld, 1985). Historical analysis supports the characterisation of qi as a subtle, mobile and even gas-like substance, ‘something like pneuma ... resembling binding

air, or a gas or vapour” (Lu & Needham, 1980, p.16). The Liver’s role in ensuring the smooth flow of qi makes it particularly vulnerable to emotional disturbance (Maciocia, 2005).

The *Huang Di Nei Jing* (Yellow Emperor’s Inner Classic) emphasises the role of emotions in disrupting qi: ‘When one is angry, then the qi rises ... when one is pensive, then the qi lumps together’ (*Su Wen* [Basic Questions] chapter

Case	Sex / age	Chief complaint	Physical examination	TCM diagnosis	Acupuncture points	Herbal formulas	Outcome
1	F/31	Throat pressure, emesis	Pale yellow complexion, soreness at Shanzhong REN-17, purple tongue sides, deep/weak cun pulse	Liver qi stagnation with Stomach qi deficiency, Spleen qi deficiency with dampness	Taichong LIV-3, Zusanli ST-36, Waiguan SJ-5, Neiguan P-6, Qihai REN-6, Zhongwan REN-12, Pi Zhen: Zhiyang DU-9, Lingtai DU-10, Shendao DU-11, Shenzhu DU-12, Taodao DU-13	Xiao Yao Wan (Rambling Pills), Xiang Sha Yang Wei Wan (Nourish the Stomach with Aucklandia and Amomum Pills)	Appetite restored; able to eat without pressure
2	M/45	Chest pressure, belching, nausea	Pressure in upper left quadrant, red tongue with white coat, wiry/weak right guan pulse	Liver qi stagnation with Stomach qi deficiency	Taichong LIV-3, Zusanli ST-36, Neiguan P-6, Qihai REN-6, Huatuojiqiao M-BW-35 (T2-T6), Ganshu BL-18, Pishu BL-20, BL-21 Pizhen: Zhiyang DU-9, Lingtai DU-10, Shendao DU-11, Shenzhu DU-12, Taodao DU-13, Dazhui DU-14, Auricular points: Shenmen, Liver, Stomach	No herbal formula used	Pressure, belching, and nausea fully resolved after 2 treatments
3	F/32	Lower left abdominal pressure and pain, eructation	Palpable tension in lower left abdomen with visible asymmetry; tenderness along tibia	Liver qi stagnation; blood and body fluid accumulation	Zulinqi GB-41, Taichong LIV-3, Gongsun SP-4, Ligou LIV-5, Zhongdu LIV-6, Zusanli ST-36, Hegu LI-4, Dahe KID-12, Auricular points: Shenmen, Kidney, Endocrine	No herbal formula used	Cyst size reduced; abdominal pressure and pain diminished
4	M/37	Upper left abdominal pressure and pain	Sharp pain on deep palpation in upper left quadrant of abdomen, light red tongue with purple spots, floating/wiry guan pulse	Liver qi stagnation with Spleen qi deficiency	Taichong LIV-3, Zusanli ST-36, Neiguan P-6, Sanyinjiao SP-6, Taibai SP-3, Auricular points: Shenmen, Liver, Stomach	Xiao Yao Wan (Rambling Pills), Jian Pi Wan (Strengthen the Spleen Pills)	Localised pressure and pain resolved after 3 treatments
5	F/65	Left eye and occipital pressure and pain	Red tongue tip/edges, deep/wiry pulse	Liver qi stagnation; Liver-Heart yin deficiency; Liver yang rising with wind; Kidney yang deficiency	Taichong LIV-3, Zulinqi GB-41, Zusanli ST-36, Huangshu KID-16, Qihai REN-6, Shuifen REN-9, Waiguan SJ-5, Shenmen HT7, Shuaigu GB-8, Taixi KID-3, Shenshu BL-23, Dachangshu BL-25, Pizhen: Fengfu DU-16, Fengchi GB-20, Wangu GB-12, Yamen DU-15, Shendao DU-11, Lingtai DU-10, Yaoyangguan DU-3, Auricular points: Shenmen, Kidney, Liver	Dietary advice only Shan Yao (Dioscoreae Rhizoma) and Mu Er (black fungus); no herbal formula used	Pain and pressure almost fully resolved within 2 visits
6	F/63	Head pressure, gait/balance/speech symptoms	Pale complexion, temple and GB-20 tenderness, right foot swelling; dark red tongue, wiry/weak pulse	Liver qi stagnation; Liver qi and blood deficiency; damp accumulation; qi deficiency	Zusanli ST-36, Hegu LI-4, Shuaigu GB-8, Fengchi GB-20, Geshu BL-17, Ganshu BL-18, Baihui DU-20, Zulinqi GB-41, Taichong LIV-3, Zulinqi GB-41 Cupping (neck, back) Tuina (Qixu GB-40, Zulinqi GB-41)	No herbal formula used	Swelling, pressure, speech, and gait improved significantly in 4 visits

Table 1: Clinical manifestations, TCM diagnosis, treatment and outcomes

39; Unschuld, 2003, p.162). Anger is specifically linked to the Liver (*Su Wen* chapter 5; Unschuld, 2003, p.113). Emotional strain may lead to impaired Liver qi, expressed as localised pain or pressure along the channel trajectory, as seen in this case series.

Classical texts describe the Liver channel as arising in the flanks, connecting with the eyes above, and descending to the feet after passing the lower abdomen (Unschuld, 1985: p.214). Stagnation in the Liver channel (Figure A) can result in localised pressure, pain, or gas-like emissions. As Lu & Needham note, 'sudden severe pain in some part of the body ... disappears instantly as soon as a local pressure of gas is released', a phenomenon they suggest resonated with ancient physicians' observations of organ and channel correspondences (Lu & Needham, 1980, p. 204–205). This paper presents six clinical cases in which emotional stress led to localised pressure and qi stagnation, each of which responded favourably to acupuncture and in some cases Chinese herbal medicine, dietary modification, tuina massage and cupping.

Modern biophysics has begun to investigate the relationship between energy, information and physiological emissions, providing tools to observe phenomena that TCM has described for millennia. The biofield framework offers one perspective, describing qi as a regulatory force that interacts with the environment (Rubik et al., 2018), while research on nitric oxide (NO) highlights a possible biochemical analogue, with elevated NO levels at acupuncture points and increased release during acupuncture, taiji and qigong (Hsiao & Tsai, 2008; Li et al., 2020). Taken together, these findings suggest that qi may be understood both as an energetic field and as a gasotransmitter-mediated process, inviting future research to integrate scientific measurement with classical clinical wisdom (Maciocia, 2005; Hui et al., 2005; Ma, 2017).

Case 1

Patient: Female, 31 years old

Chief complaint: A sensation of localised pressure in the throat (described as a 'small pit stuck' in the throat) and dysphagia was experienced for three weeks prior to presentation in clinic. This was accompanied by significant fatigue and 15-pounds of weight loss. Following episodes of emesis, swallowing was temporarily restored.

Research on nitric oxide (NO) highlights a possible biochemical analogue, with elevated NO levels at acupuncture points and increased release during acupuncture, taiji and qigong.

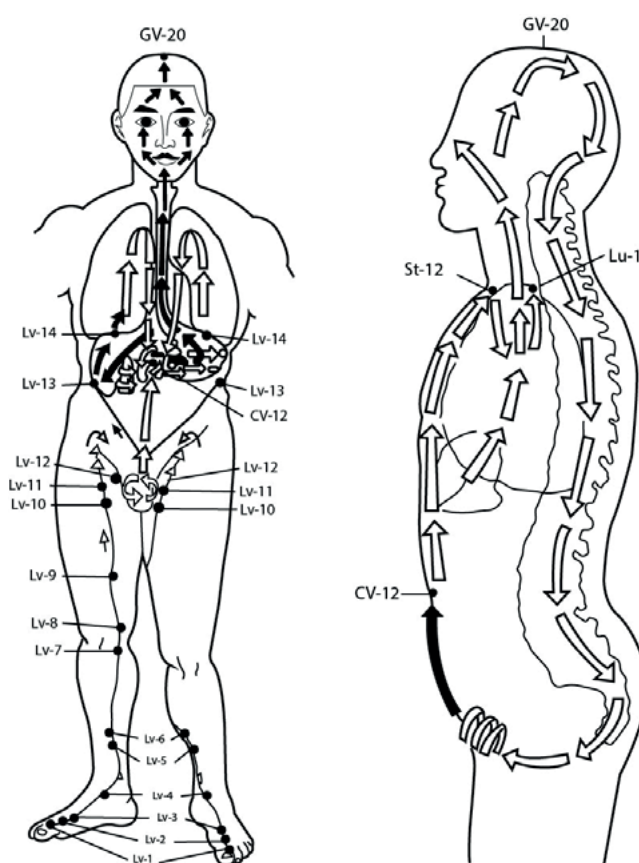


Figure A: Pathway of qi circulation in the Liver channel

Health history: One year prior to the onset of symptoms, the patient experienced three days of recurrent vomiting. She visited the emergency department four times over a three-week span and was found to have a low-grade fever (37.8-38 degrees Celsius). Medical testing, including bloodwork, urinalysis, radiography, ultrasound and gastroscopy yielded unremarkable results. Despite symptoms for three weeks, no clear diagnosis was made. Aspirin was prescribed with no therapeutic benefit. Notably, these symptoms followed the death of a close friend from lung cancer, which led to profound emotional distress and insomnia.

Physical examination: The patient presented with a pale yellow complexion, and reported soreness and a sensation of pressure during palpation of the sternum (Shanzhong REN-17 area). Tongue examination revealed purple spots along the sides and a full white coat reflecting Liver qi

stagnation and blood stasis, and depleted qi of the Spleen and Stomach leading to dampness. Pulse diagnosis showed deep and weak quality at the *cun* position of both wrists.

TCM diagnosis: Liver qi stagnation with Stomach qi deficiency; Spleen qi deficiency with dampness.

Treatment

Even needling method was used for the following points:

- Zusanli ST-36
- Waiguan SJ-5 threaded to Neiguan P-6
- Qihai REN-6
- Zhongwan REN-12

Reducing method was used for the following point

- Taichong LIV-3

Pizhen, a bladed needle technique used to release the fascia, was applied along points on the Governing Vessel (*Du Mai*) corresponding to the patient's experience of localised pressure in the sternum (Zhiyang DU-9, Lingtai DU-10, Shendao DU-11, Shenzhu DU-12, Taodao DU-13). This technique was selected to address deep-seated stagnation and facilitate the dispersal of obstructed qi in the affected region.

Herbal patent pills: *Xiao Yao Wan* (Rambling Pills) and *Xiang Sha Yang Wei Wan* (Nourish the Stomach with Aucklandia and Amomum), both 12 pills twice daily.

Results: The patient experienced relief of the localised pressure after the first treatment, and it did not return. Their care continued with the same herbal formulas for two weeks.

Case 2

Patient: Male, 45 years old

Chief complaint: Localised pressure in the oesophagus accompanied by nausea and excessive eructation. Symptoms worsened during periods of occupational stress.

Health history: The patient had been diagnosed with and treated for stage two liver cancer in 2017 and was a hepatitis B carrier for over 20 years. Symptoms of nausea, belching and oesophageal pressure began one day before their first acupuncture visit, interfering with their ability to eat.

Physical examination: No pain on palpation in the upper abdomen. Tongue examination revealed a red body with a thin white coat. Pulse diagnosis exhibited a wiry and weak quality at the *guan* position in the right wrist.

TCM diagnosis: Liver qi stagnation with Stomach qi deficiency

Treatment

First Visit

Even needling method was used for the following points:

- Zusanli ST-36
- Neiguan P-6
- Qihai REN-6

Reducing method was used for the following point:

- Taichong LIV-3
- *Pizhen* treatment at Zhiyang DU-9, Lingtai DU-10, Shendao DU-11, Shenzhu DU-12, Taodao DU-13 and Dazhui DU-14.
- Auricular points: Shenmen, Liver, Stomach

After the first treatment, the localised pressure was reduced by 75 per cent, the chest oppression was gone and the patient felt relaxed.

Second visit (two days later)

Even method was used on the following points

- Huatuojiayi M-BW-35 points (T2, T3, T4, T5, T6),
- Ganshu BL-18
- Pishu BL-20
- Weishu BL-21
- *Pizhen* treatment at Zhiyang DU-9, Lingtai DU-10, Shendao DU-11, Shenzhu DU-12, Taodao DU-13

Results: After the second treatment, the remaining 25 per cent of the localised pressure as well as the nausea and belching were all resolved.

Case 3

Patient: Female, 32 years old

Chief complaint: Localised pressure and pain in the lower left abdominal quadrant, described as a sensation of 'trapped air'. This began immediately after a cystectomy, one week prior to presenting at the clinic. Eructation was noted during and after treatments.

Health history: Ultrasound taken one month prior to her clinic visit revealed a four centimetre cyst on the left ovary, along with several smaller cysts (between one and two centimetres in size).

Physical examination: Increased tension and elevation in the patient's lower left abdominal quadrant, suggesting localised pressure. Visual inspection revealed a sesame

seed-sized swelling at the outer canthus of the right eye.

TCM diagnosis: Liver qi stagnation, blood and body fluid accumulation

Treatment

Even needling method was used for the following points:

- Gongsun SP-4
- Ligou LIV-5 (subcutaneously threaded to Zhongdu LIV-6 as the tibia had significant tenderness)
- Zusanli ST-36
- Hegu LI-4
- Dahe KID-12

Reducing method was used for the following points:

- Zulinqi GB-41
- Taichong LIV-3
- Auricular points: Shenmen, Kidney and Endocrine

To guide point selection, the practitioner applied the ‘ratio method’ (developed through their clinical experience). This method involves dividing the body into proportional segments to identify corresponding distal points. In this case, the patient’s pain was located approximately four fifths of the distance lateral from the umbilicus; thus, Zulinqi GB-41 - located four fifths of the distance lateral from the medial border of the dorsal foot - was selected. Further palpation revealed a cord-like knot near Guanyuan REN-4, prompting the additional use of Taichong LIV-3 and Gongsun SP-4 based on continued application of the ratio method.

Results: Two minutes after insertion of the needles, reassessment showed a marked reduction in the cord-like tension and a decrease in the patient’s reported pain. This treatment was actually the patient’s second acupuncture session. The first treatment had resulted in a two centimetre reduction in the largest cyst (shown on ultrasound the day after the treatment), despite prior imaging documenting consistent growth. However, following medical advice the patient underwent ovarian cystectomy one month later, before returning to the clinic one week post-surgery due to discomfort.

Treatment of this patient required ongoing care due to the underlying deficiency pattern. A deficient state in their ovarian tissue created a susceptibility to the intrusion of pathological qi, which tends to accumulate in weakened areas. This stagnation impeded the circulation of blood and body fluids and resulted in localised pressure. In this case, the palpable tension and pain in the lower left abdomen reflected such a pathomechanism. Treatment aimed to disperse localised stagnation and tonify the root deficiency, thereby strengthening the body’s ability to regulate qi and prevent recurrence.

Case 4

Patient: Male, 37 years old

Chief complaint: Localised pressure and discomfort in the patient’s upper left abdominal quadrant for over one year, accompanied by fatigue.

Health history: Abdominal ultrasound findings were normal despite persistent discomfort near the umbilicus on the upper left side. Bowel function and appetite remained normal, with routine morning evacuation. The patient attributed symptoms to ongoing occupational stress related to a new business venture. Nocturnal symptoms included jaw tension and bruxism, which disrupted sleep and contributed to daytime fatigue. The patient reported habitual alcohol use (wine) to aid in relaxation.

Physical examination: On palpation of the upper left abdominal quadrant, resistance was noted, and the patient reported sharp pain upon application of deep pressure. Tongue examination revealed a light red body with purple spots bilaterally along the sides and a thin white coating. Pulse diagnosis exhibited a floating and wiry quality at the *guan* position on both wrists.

TCM diagnosis: Liver qi stagnation and Spleen qi deficiency

Treatment

Even needling method was used for the following points:

- Zusanli ST-36
- Neiguan P-6
- Sanyinjiao SP-6
- Taibai SP-3

Reducing method was used for the following point:

- Taichong LIV-3
- Auricular points: Shenmen, Liver, Stomach

Herbal patent pills: *Xiao Yao Wan* (Rambling Pills) and *Jian Pi Wan* (Strengthen the Spleen Pills), both 12 pills twice daily.

Results: Following the initial treatment, the localised pressure in the upper left abdomen was significantly reduced. The patient was prescribed a two-week course of herbal medicine to address the underlying patterns of Liver qi stagnation and Spleen qi deficiency. Two follow-up acupuncture treatments using the same point prescription successfully cleared the remaining abdominal tension. Upon re-examination, the patient reported no pain, even with deep palpation, indicating resolution of the localised stagnation.

Case 5

Patient: Female, 65 years old

Chief complaint: Distending pain and localised pressure in the left eye and occipital region.

Health history: Three years earlier, the patient experienced a sudden onset of prickling and throbbing eye pain following an episode of intense anger. Six months later, they underwent surgery for a cerebral aneurysm behind the left eye. After that, the pain recurred intermittently, exacerbated by screen exposure and stress. The patient suffered from chronic insomnia, frequent nocturnal urination, low back pain, cold extremities and gastric sensitivity due to prolonged use of analgesics.

Physical examinations: Palpation of the occipital region revealed a bulging, band-like tension that elicited pain. The left temporal region, specifically at Taiyang M-HN-9, exhibited localised pressure that was both tender and taut upon palpation. Tongue examination showed a red tip and edges with a thin white coating, while the pulse was deep and wiry. These findings suggest a pattern of Liver qi stagnation with internal wind and underlying yin deficiency, contributing to tension and pressure in the head and neck region.

TCM diagnosis: Liver qi stagnation (primary); Liver-Heart yin deficiency, Liver yang rising with wind, and Kidney yang deficiency (secondary).

Treatment

First Visit

Even needling methods was used for the following points:

- Zusanli ST-36
- Huangshu KID-16
- Qihai REN-6
- Shuifen REN-9
- Shenmen HE-7
- Taixi KID-3
- Shenshu BL-23
- Dachangshu BL-25

Reducing method was used for the following points:

- Taichong LIV-3
- Zulinqi GB-41
- Waiguan SJ-5
- Shuaigu GB-8
- Left auricular points: Shenmen, Kidney, Liver

Approximately 30 minutes into the treatment, the patient reported an improvement in occipital pain; however,

localised pressure in the occipital region persisted. Concurrently, she experienced the onset of eye discomfort. *Pizhen* therapy was subsequently applied at Fengfu DU-16, Fengchi GB-20, Wangu GB-12, Yamen DU-15, Shendao DU-11, Lingtai DU-10 and Yaoyangguan DU-3. Following this intervention, the patient noted a marked decrease in the localised occipital pressure, indicating a positive response to the superficial needling technique.

Given the patient's preference to avoid herbal pills, a therapeutic dietary approach was advised. The patient was recommended to consume a soup made with Shan Yao (*Dioscoreae Rhizoma*) and Mu Er (black fungus). This combination is traditionally used to tonify the Spleen and Kidney, nourish yin and gently promote blood circulation. Shan Yao supports digestive function and strengthens qi, while Mu Er helps to moisten dryness and disperse stagnation.

Second Visit (two days later)

The patient reported that the painful localised pressure responsible for the occipital pain was nearly completely resolved. Residual eye discomfort was minimal. The same treatment protocol as the initial session was applied. Upon palpation, localised pressure at Fengfu DU-16 and Fengchi GB-20 had significantly decreased, and the previously noted bulging band across the occipital region had fully dissipated. These findings indicate effective resolution of localised stagnation and successful regulation of qi.

Case 6

Patient: Female, 63 years old

Chief complaint: Head pressure accompanied by impaired gait and weakness in the right upper limb, present for one week.

Health history: Her symptoms began one week prior, with mild head pressure progressing to balance disturbance, speech impairment, difficulty writing with her dominant right-hand and diminished taste perception. The patient denied any history of hypertension but recalled experiencing intense anger related to home renovation delays the day prior to symptom onset. A preliminary diagnosis of stroke was made by her family physician, though CT imaging was unremarkable. At the time of the treatments the patient was awaiting an MRI and was being treated with blood thinners.

Physical examination: The patient presented with a pale complexion, shortness of breath, weak voice and mental fog. Palpation revealed tenderness at the right temple, Fengchi GB-20 and the lateral aspect of the right foot

along the Bladder and Gall Bladder channels, where slight swelling was also observed. The tongue appeared dark red with a thin white coating. Pulse diagnosis revealed a wiry and weak quality. These findings suggested a pattern involving Liver qi stagnation with underlying qi and blood deficiency, and damp accumulation in the lower extremity.

TCM diagnosis: Wind-stroke (attack channel type), Liver qi stagnation, Liver qi and blood deficiency, damp accumulation and qi deficiency.

Treatment

First Visit

Even needling method was used for the following points:

- Hegu LI-4
- Shuaigu GB-8
- Fengchi GB-20
- Geshu BL-17
- Ganshu BL-18
- Baihui DU-20

Reducing method was used for the following points:

- Zulinqi GB-41
- Taichong LIV-3

Following 30 minutes of acupuncture, cupping therapy was applied to the neck, shoulders, and back to promote qi and blood circulation. Subsequently, *tuina* massage was applied at Zulinqi GB-41 and Qiuxu GB-40 for 30 minutes. This combination reduced swelling and localised pressure in the right foot, and tenderness at the right temple resolved. The same approach was applied to the left foot to harmonise yin and yang and restore systemic balance.

Two hours after treatment, the patient reported approximately fifty per cent reduction in localised pressure. Their vital energy appeared significantly improved and they noted stability while walking.

Second visit (four days later)

The treatment protocol was repeated with greater emphasis on the reducing method at Fengchi GB-20 and Fengfu DU-16. Following this session, the patient reported a clearer head, with notable relief from localised pressure and the sensation of mental fog. Their speech was approximately 20 per cent clearer, and their sense of taste had almost fully returned.

Results: After four weekly treatments, the patient regained sufficient stability and cognitive clarity to drive herself to

appointments. While most symptoms gradually improved, fine motor control, specifically handwriting, remained the slowest to recover. Reflecting on her healing process, the patient shared that her most profound lesson was learning to ‘think lightly’ and avoid reactive anger, recognising the role emotional regulation plays in physical health.

This case highlights the therapeutic value of combining acupuncture, cupping and *tuina* massage to promote the circulation of qi and blood following a stroke. Cupping was applied to the shoulder and neck regions along the hand Shaoyang channel (Fengchi GB-21 was specifically used to release the internal wind), while *tuina* was focused on the foot Shaoyang channel of the lateral foot (Qiuxu GB-40 and Zulinqi GB-41). According to TCM theory, intense emotional outbursts, particularly anger, can cause Liver qi to rise excessively, leading to counterflow of blood and qi. This dynamic may manifest as localised pressure along the Gall Bladder channel, the *yinyang* paired channel of the Liver, and in severe cases contributes to the development of cerebrovascular incidents such as brain haemorrhage.

Discussion

The six cases presented here demonstrate the clinical relevance of identifying and treating Liver qi stagnation, particularly where subjective experience of internal pressure are corroborated by objective findings through palpation, tongue and pulse diagnosis that reveal a correlation between the path of Liver channel and the areas of symptomatic expression. These cases underscore the effectiveness of acupuncture in restoring the physiological

movement of qi and resolving pathological qi perceived by patients as uncomfortable pressure. According to TCM theory, the Liver governs the smooth flow of qi

throughout the body (Maciocia, 2005). When disrupted by excessive emotions - particularly anger, frustration or unresolved stress - Liver qi becomes constrained (Maciocia, 2005; Unschuld, 1985). This stagnation has tangible, localised effects on organ systems and channel pathways.

In the presented cases, stagnation was observed either to generate internal wind or cause stagnation, which several patients described as a gas-like pressure. This resonates with classical descriptions of qi as subtle and vapour-like (Lu & Needham, 1980) and parallels modern research on gasotransmitters such as nitric oxide (NO). Viewed biomedically, the clinical findings in these cases align with research on NO as a gaseous signalling molecule involved in neurovascular regulation, where both deficiency and excess

During acupuncture treatment, as the pressure decreased, the patient began spontaneously burping.

can generate localised dysfunction (Chen et al., 2017). Thus, the clinical expression of qi as a gas-like, pressure-sensitive force resonates with TCM theory and finds plausible mechanistic support in emerging biomedical literature. Biomedical studies show that NO regulates gastrointestinal motility and smooth muscle relaxation, and its dysregulation contributes to symptoms such as bloating and distension, conceptually comparable to pathological qi (Hsaio & Tsai, 2008; Li et al., 2015). Likewise, somatoform disorders presenting with medically unexplained symptoms are now being correlated with TCM diagnostic patterns like Liver qi stagnation and phlegm-dampness (Kondo et al., 2014). Acupoints have been shown to exhibit elevated NO signalling (Ma, 2017), while acupuncture's enhancement of vagal tone not only rebalances autonomic activity but also increases the release of gasotransmitters such as NO, facilitating smooth muscle relaxation and motility. This neurochemical effect provides a plausible substrate for the TCM observation that harmonising qi disperses stagnation and relieves pressure (Liu et al., 2024; Takahashi & Owyang, 1995). Could NO be the biomedical substrates through which acupuncture mobilises and resolves pathological qi? Acupuncture's ability to restore the smooth flow of qi may, in part, be mediated by the modulation of these gaseous messengers, linking traditional and biomedical understandings.

When viewed through this integrated lens, the cases demonstrate how acupuncture's influence on qi, and possibly on gaseous messengers like NO, can resolve localised pressure. Case 3 illustrates this dynamic. In this case post-operative abdominal pressure reflected residual stagnation following cystectomy, likely compounded by emotional stress and impaired gasotransmitter signalling (Meng, 2019). During acupuncture treatment, as the pressure decreased, the patient began spontaneously burping, a release consistent with the dispersal of pathological qi. At the same time, there was a reduction in the tenderness along the Gall Bladder channel, which mirrored a change in the internal imbalance of the Shaoyang axis, which governs internal-external and ascending-descending dynamics (Sharma, 2007). Cases 5 and 6 provide further examples. In both cases, patients experienced pressure headaches and ocular distension following intense anger, illustrating the pathological ascent of Liver qi. In Case 6, the symptoms were localised at the temples, occiput and lateral foot, areas traversed by the foot Shaoyang Gall Bladder channel, reinforcing the classical understanding of qi reversal into the upper orifices. These patients reported resolution of head and eye distension, restoration of mental clarity and reduction of residual tension. These therapeutic effects were most apparent when using Shaoyang-regulating points such as Fengchi GB-20, Fengfu DU-16, Qixu GB-40 and Zulinqi GB-41. Together, these points harmonise the Shaoyang pivot and descend rising Liver qi, facilitating the dispersal of localised stagnation. While these clinical findings are rooted in traditional diagnostic frameworks, the mechanisms by which acupuncture resolves

localised pressure may involve the modulation of neurovascular bundles, fascial planes and bioelectrical signalling via gasotransmitter release, an interpretation increasingly supported by emerging biomedical literature (Ma, 2017). Research into connective tissue deformation and interoception align with TCM theories describing the communication of qi as both physical and energetic (Langevin, Churchill, & Cipolla, 2001; Craig, 2002). These parallels open exciting avenues for future cross-disciplinary research.

Conclusion

These six cases affirm the value of acupuncture in resolving localised pressure resulting from Liver qi stagnation and in restoring physiological function by mobilising both vital and pathological qi. Emotional and physical stressors frequently act as triggers, and TCM interventions offer meaningful relief by realigning the body's qi dynamics. Ultimately, these findings invite a re-examination of how subtle internal states, often dismissed as psychosomatic, may in fact represent measurable, treatable imbalances in qi dynamics. Further research is warranted to explore and validate these observations. Controlled studies comparing patients with similar symptom profiles, both with and without acupuncture intervention, could validate the therapeutic mechanisms suggested here. Additionally, integration with biophysical diagnostic tools, such as thermography, electrocardiography and galvanic skin response sensors may enhance our capacity to observe and validate traditional practices. Understanding qi as a gas-like, pressure-sensitive force within the body may not only enrich TCM theory but also offer new language and models for understanding functional disorders in biomedicine. Incorporating cross-disciplinary collaborations between TCM practitioners, neuroscientists and biomedical researchers may pave the way for a more integrative and comprehensive model of care. ㊦

Meaghan Kleovoulos, BSc, RTCMP, RAc, FABORM, is a traditional Chinese medicine practitioner in Toronto, Canada. Her clinical focus is on women's health and fertility, integrating acupuncture and herbal medicine with a modern understanding of reproductive medicine.

Wei Wendy Zhang, MTCM, RTCMP, RAc, received her Master of Medicine (TCM) from Guangzhou University of Chinese Medicine in 1989 and has over 30 years' clinical experience. Practising in Ontario, Canada, she specialises in women's health and fertility, and has taught traditional Chinese medicine at Toronto Metropolitan University and Humber College.

References

- Chen, Z.-Q., Mou, R.-T., Feng, D.-X. et al. (2017). The role of nitric oxide in stroke. *Medical Gas Research*, 7(3), 194–203. <https://doi.org/10.4103/2045-9912.215750>
- Craig, A. D. (2002). How do you feel? Interoception: The sense of the physiological condition of the body. *Nature Reviews Neuroscience*, 3(8), 655–666. <https://doi.org/10.1038/nrn894>
- Hsaio, S.-H., & Tsai, L.-J. (2008). A neurovascular transmission model for acupuncture-induced nitric oxide. *Journal of Acupuncture and Meridians Studies*, 1(1), 42–50. [https://doi.org/10.1016/S2005-2901\(09\)60006-6](https://doi.org/10.1016/S2005-2901(09)60006-6)
- Hui, K. K.-S., Liu, J., Marina, O. et al. (2005) The integrated response of the human cerebro-cerebellar and limbic systems to acupuncture stimulation at ST 36 as evidenced by fMRI. *Neuroimage*. 27(3), 479–496. <https://doi.org/10.1016/j.neuroimage.2005.04.037>
- Kondo, T., Tokunaga, S., Sugahara, H., Yoshimasu, K., Kanemitsu, Y., & Kubo, C. (2014). Identification of visceral patterns in patients with stress-related disorders. *Integrative Medicine International*, 1, 185–198. <https://doi.org/10.1159/000375532>
- Langevin, H. M., Churchill, D. L., & Cipolla, M. J. (2001). Mechanical signaling through connective tissue: A mechanism for the therapeutic effect of acupuncture. *FASEB Journal*, 15(12), 2275–2282. <https://doi.org/10.1096/fj.01-0015hyp>
- Li, H., He, T., Xu, Q. et al. (2015). Acupuncture and regulation of gastrointestinal function. *World Journal of Gastroenterology*, 21(27), 8304–8313. <https://doi.org/10.3748/wjg.v21.i27.8304>
- Liu, T., Liu, J., Chen, L. et al. (2024). Progress in studying the mechanism of traditional Chinese medicine for treating functional dyspepsia. *Indian Journal of Pharmaceutical Sciences*, 86(3), 319–331. <https://doi.org/10.36468/pharmaceutical-sciences.spl.936>
- Liu, D., Yi, L., Sheng, M. et al. (2020). The Efficacy of Tai Chi and Qigong Exercises on Blood Pressure and Blood Levels of Nitric Oxide and Endothelin-1 in Patients with Essential Hypertension: A Systematic Review and Meta-Analysis of Randomized Controlled Trials. *Evidence-based complementary and alternative medicine*. <https://doi.org/10.1155/2020/3267971>
- Lu, G.-D., & Needham, J. (2002). *Celestial lancets: A history and rationale of acupuncture and moxa*. Routledge Curzon: London
- Ma, S. X.. (2017). Nitric Oxide Signaling Molecules in Acupuncture Points: Toward Mechanisms of Acupuncture. *Chinese Journal of Integrative Medicine*, 23(11), 812–815. <https://doi.org/10.1007/s11655-017-2789-x>
- Maciocia, G. (2005). *The foundations of Chinese medicine: A comprehensive text for acupuncturists and herbalists* (2nd ed.). Elsevier Churchill Livingstone: London.
- Meng C. (2019). Nitric oxide (NO) levels in patients with polycystic ovary syndrome (PCOS): a meta-analysis. *Journal of International Medical Research*, 47(9), 4083–4094. <https://doi.org/10.1177/0300060519864493>
- Rubik, B., Muehsam, D., Hammerschlag, R. et al. (2018). Biofield Science and Healing: History, Terminology, and Concepts. *Global Advances in Health and Medicine*, 4(Suppl), 8–14. <https://doi.org/10.7453/gahmj.2015.038.suppl>
- Sharma, J.N., Al-Omran, A. & Parvathy, S.S. (2007). Role of nitric oxide in inflammatory diseases. *Inflammopharmacol* 15, 252–259. <https://doi.org/10.1007/s10787-007-0013-x>
- Takahashi, T., Owyang, C. (1995). Vagal control of nitric oxide and vasoactive intestinal polypeptide release in the regulation of gastric relaxation in rat. *Journal of Physiology*. 484(2), 481–92. <https://doi.org/10.1113/jphysiol.1995.sp020680>
- Tracey, K. J. (2002). The inflammatory reflex. *Nature*, 420, 853–859. <https://doi.org/10.1038/nature01321>
- Unschuld, P. U. (1985). *Medicine in China: A history of ideas*. University of California Press: Berkeley.
- Unschuld, P. U. (2003). *Huang Di Nei Jing Su Wen: Nature, Knowledge, Imagery in an Ancient Chinese Medical Text*. University of California Press: Berkeley.